THE ADVOCATE OF SCIENCE.

ol. 1.] KNOWLEDGE IS POWER—HAPPINESS—VIRTUE. [Nos. 35 & 36.

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For the Advocate of Science.

GEOLOGY, No. 19.

my present number I will take up the subject of the origin of mineral

asty conclusions to be avoided.—From the combustible nature of coal, its mblance to charcoal, and the remains of plants found in connexion with strata, geologists have mostly fallen into the opinion that mineral coal rived from the vegetable kingdom. It appears to me that this view is tained without sufficient investigation. I will proceed to state the ing arguments in favor of it, and to inquire into their validity, leaving readers to form what conclusions they choose. In obtaining a clear w of the case, it is of the utmost importance to distinguish between the ral kinds of coal; for it may not appear improbable that these different ds possess different origins.

Three principal kinds of mineral coal.—The varieties commonly recognized mineralogists are three in number, viz:—1. Anthracite, or glance coal. Common coal. 3. Cannel coal.

Anthracite coal described.—Anthracite is widely separated in character from other varieties, being composed almost entirely of pure carbon. The rest contains 94 or 95 per cent. The residue is principally iron.

Common and cannel coal.—Besides carbon and iron, these varieties con a considerable quantity of bitumen, and often sulphur, the presence of ich renders them much more inflammable, and gives rise to a large quan of odorous fumes during combustion. They differ from one another ly in the proportions of bitumen which they contain; common coal con ing from 15 to 20 per cent. and cannel coal 30. Bitumen is a kind of ral oil, very inflammable, and resembling tar.

Geological situation of the coal strata important in the argument.—Those of y readers who have carefully perused these essays on geology, must be ware of the important bearing which the relative situation of coal among e other strata has upon the question of its origin. Thus, the primary ks being supposed to have existed prior to the formation of plants and imals, it follows that all the minerals contained in or between any of those ata must be referred to the same comparative date; and hence, if a body coal be found among the primary rocks, the presumption is legitimate at such coal was formed anterior to vegetables, and of course that it is t of vegetable origin.

Situation of the regular coal formation.—The great coal formation which fur ishes the principal supply of coal in different countries throughout the orld, is located among the secondary rocks. Its situation, therefore, af rds no argument against its vegetable origin, because plants are known to ave existed in profusion at the time when the secondary strata were made.

Anthracite not in the regular coal formation.—But anthracite occurs in the lder strata, and is therefore presumed to have been formed before the other rieties. The anthracite of Massachusetts, Rhode Island, and New York in transition slate, the lowest rock of the transition series, and consequently was formed when vegetation existed to a small extent. Several eminent eologists have declared that it exists occasionally in the primary rocks. If such be the fact, the date of the deposits so situated must be referred to a period anterior to the creation of plants. But other writers have taken the liberty of doubting the correctness of those statements. This being the ase it is best that we should not venture to depend on that argument. The location, however, of the anthracite to which I just now alluded, being such as to indicate no abundance of vegetable materials at the time of its origin, is unfavorable to the view of a vegetable origin. But we cannot lay much stress on this argument.

Impressions of plants on coal, and argument deduced.—The impressions of plants are commonly to be found on coal, and more particularly on the slate which always accompanies this mineral. From this circumstance the conclusion has been deduced that the coal originated from those vegetables whose relics are so copiously distributed among it.

Reply to that argument.—But, it may be replied, if the impressions of plants prove the substance containing them to be of vegetable origin, then is the slate before spoken of to be ascribed to plants; for the slate which forms the roof and floor of coal mines affords the relics of plants in much greater abundance than the coal itself.

Vast accumulation of plants required.—There is a difficulty in explaining the means by which was brought together so vast an accumulation of vegetable materials as must have been necessary for the production of the coal fields. This difficulty is easily removed, says the defender of the vegetable origin. Do we not find the deposits of coal made in large basins that were once the beds of lakes, into which the floods of a hundred rivers might have transported a much greater quantity of wood and other vegetable productions than would be sufficient for the purpose?

No such accumulation existed.—It is true, the reply may be made, that the coal fields appear to have been formed in lakes; but the perfect condition of the impressions contained in them proves beyond the shadow of a doubt that no such torrents could have troubled the waters of the lakes. Not a pebble exists therein to indicate such currents—the impressions are made with such beautiful exactness, the delicate leaves so fully unfolded and so entire, that every idea of violence by aqueous torrents is totally prohibited. The utmost quiet and repose must have prevailed during the whole period of the formation of the coal fields. The coal, it would appear, was deposited from a state of solution or suspension, in the waters of the lake. The only way in which vegetables could have contributed to its composition must have been by their conversion into this dissolved or suspened carbonaceous matter.

Successive growths of vegetation supposed.—Again, this objection is rebutted by supposing several successive growths of vegetation over what was once the surface of the earth or the bottom of the lake, where the coal is now found; and that these successive crops of vegetables were successively converted into coal. This plan would require of course a long period of time for the completion of the purpose; but there is nothing in the way of believing that the formation of coal was very gradual and slow.

Objection to this argument.—Undoubtedly, it may be replied, the formation was slow, if each layer and seam of coal required a previous growth of vegetation on the soil. In some of the English coal twenty different seams have been counted in a piece two inches in thickness. Hence the surface of the earth must have been covered with verdure, and the crop destroyed, or at least changed into coal, and time allowed for another growth of vegetation twenty times during the construction of this little stratum only two inches thick. A much longer time would be required for the formation of the whole mass, which is many feet in depth. When we consider that devastating floods and destructive revolutions were much more frequent in those primitive days of the earth, when the coal was deposited, than they are now, can we believe that a lake would have remained in a state of undisturbed quiescence for hundreds and hundreds of years, which would have been requisite for the accomplishment of the suggested process?

I will complete the subject of the origin of coal in my next number.

S.

It was formerly a law of Egypt, that every individual should give an account of his fortune, and the means by which he procured a maintenance. If the integrity of the world were tested by such a law at the present time, it would appear that the progress of civilization, and the arts and sciences, has had but little influence in making honest citizens.

For the Advocate of Science.

AN INTRODUCTORY LECTURE ON CHEMISTRY.

(*Continued from page* 131.)

I HAVE remarked that the belief of the ancients in the doctrines of alchemy ought not to excite our surprise. The most learned, rational and ingenious men of their age entertained those doctrines. Inseparably connected with the history of chemistry and general science is the name of Roger Bacon, an English monk, who was decidedly the greatest man of his age. His splendid acquirements gained for him the name of "The wonderful Doctor." Chemistry is indebted to him more than to any other individual who lived within several centuries of his time. One of the productions of his pen is considered as the prototype, in many respects, of the "Novum Organon" of Francis Bacon, who lived two centuries afterwards, and established the experimental mode of philosophizing. Yet, with all these exalted features of character, Roger Bacon was a firm believer in the "philosopher's stone," the transmutation of metals, and the universal medicine. By the experiments that he instituted, partly with the hope of finding the "philosopher's stone," he made many important discoveries in chemistry, among which was that of the ingredients of gunpowder. So famous did he become on account of his learning and experiments, that he acquired the reputation of witchcraft, and was excommunicated by the Pope, and imprisoned for ten years for his supposed dealings with the devil. For the same reason, his brother churchmen used to nail his books to the shelves of their libraries, to be eaten by the moths and worms; and all this in spite of his having written a treatise expressly on the "Nullity of Magic."

It is not a little singular, that, in an age of credulity and superstition, Friar Bacon should have incurred the charge of dealing with supernatural agents, and suffered persecution accordingly, on account of his real discoveries in chemistry, while on the other hand he had written a book to disprove the prevailing belief in magic. And it is also singular that after attempting to correct that superstitious belief, and after complaining as he does in some of his writings of "the futile speculations passing under the name of learning and philosophy," he should embrace implicitly the futile speculations of the alchemists. That he not only believed, but practised the alchemical art, is beyond a doubt. In one of his works he speaks of a certain stone which attracts gold, silver and all other metals, "the consideration whereof makes me think there is not any thing, whether in divine or outward matters, too difficult for my faith." There is in my possession a small treatise written by him, entitled "Of the Medicine or Tincture of Antimony, as well to preserve man's body in health, and to divert all desperate and incurable diseases, as also to cure the leprosie of metals, to purifie and transmute them into the best gold." In his recipe for the preparation of this "celestial medicine," he directs the ingredients to be taken in "the name of God and of the Eternal Trinity." But he prudently provides a condition for its effectual use; for in prescribing it "for a prolongation of a healthful life," we are shrewdly informed that every one that takes two drops of it in the spring and autumn, is safe from all sickness, "except the disease were by Almighty God, ordained for the death of the party."

Perhaps no single cause contributed so much to the general delusion which existed age after age respecting the art of alchemy, as a firm belief in the influence of celestial on terrestrial bodies. The hieroglyphical style of writing tended to perpetuate such a belief, by which it was itself greatly supported. It was the opinion of Sir Humphrey Davy, that the stories of the "Arabian Nights" were connected with the pursuit of the art of transmutation, and the production of the elixir of life; and other writers have expressed sentiment that those tales admit of a mystic interpretation. The ingenious Darwin regarded many of the incidents of heathen thology as metaphorical descriptions of chemical operations. same idea had before been entertained by Lord Bacon. It is probable that the chemical knowledge derived from the Egyp priests by the philosophers of Greece, was applied in some deg to the mythological systems of the Greeks and Romans.

The supposed agency of the heavenly bodies in mundane affa grew into the reputed science of astrology—a science universa current in its day, and the relics of which abound among the ig rant of the present age. Being associated with alchemy, the kept pace with each other, and fell into disrepute at the same ti During the night of the dark ages, the place of true and ration science was usurped by a host of false speculations and absurd co ceits. Some idea may be formed of the extent to which they we cultivated, by referring to a passage of Paracelsus in which some them are enumerated:—"Geomancy, Chiromancy, Physiognom Hydromancy, Pyromancy, Necromancy, Astronomy, the Berill cal art, and other Astral Sciences." Although some of these a true sciences, yet they were cultivated chiefly for purposes of d vination, and their real character was shrouded in the superstitio garb of the times.

There are numerous vestiges of the belief in astrology still in e istence, the marks of whose paternity are not commonly recognize Many of our almanacs continue to represent as a frontispiece t mutilated body of a man, with its several parts marked off as the were once supposed to be governed by the signs of the zodiac. T influence of the planet Jupiter was formerly invoked as a benedic tion on medical prescriptions, by prefixing to them the hieroglyph of that planet. Modern physicians have continued the practice often substituting for the superstitious emblem the letter R, o something analogous to it, commonly understood to signify *recipe*, or *take*. In most instances, however, the character now employed is neither the original hieroplyphic of Jupiter, nor the initial of the word *recipe*, but a mutilation of one or the other, the origin of which not every one could explain.

In the days of astrology each of the metals then known was supposed to be under the special influence either of the sun, of the moon, or of one of the planets. Gold being a perfect metal was allotted to the sun, and silver to the moon because of its lustre and relative importance. The planet Mercury being seldom visible, and somewhat volatile in disposition assumed the charge of quicksilver. Copper was given to Venus, iron to Mars, and tin to Jupiter, for reasons equally valid. Finally, lead, because of its cold qualities, was placed under the care of Saturn. Several of the names now applied to metallic preparations perpetuate the memory of that absurd doctrine. "*Lunar* caustic" is the common appellation for a preparation of silver; *mercury* is still universally applied to quicksilver; salt of *Mars* is often employed to designate a salt of iron; and the preparations of lead are frequently denominated *Saturnine* medicines.

But I have said enough of alchemy to give you a general view of the state of chemical science during the dark ages. The history of chemistry before the declension of alchemy, and its history subsequent to that epoch, present a complete contrast with scarcely a single point of resemblance. In the former, we observe the concentrated operation of every cause that can blind and enslave the hu-

intellect—ignorance, prejudice, superstition, credulity and ticism, false reasoning and absurd fancies, ambition, avarice imposture. In the latter, we trace the almost perfect applica- of the Baconian philosophy, the essence of which is careful ex- ent and rational induction.

history of modern chemistry would be little else than a trea- n the science. Were I to attempt to present you with a list most eminent cultivators, I should not know with whom to , nor where to end. More especially since the middle of the entury has the march of improvement been rapid. On review- e discoveries of that period, one is almost ready to conclude ittle is left for future enterprise.

this age of utilitarianism, when the merits of a pursuit are de- ined by the demonstrable benefits derived from it, it becomes sential part of my present purpose to show the relation of che- y to the useful arts. To accomplish the task, there are no ulties to encounter. Every branch of human industry is at to testify of the improvements for which it is indebted to che- y. In the processes of dying and bleaching, in calico printing, tanning of leather, the principles of that science have been sively applied. The miner exhibits his safety lamp as an vement of chemistry, and the physician his quinine, and his fecting compounds of chlorine, with many other valuable medi- agents. The art of smelting or separating metals from their and the various branches of metallurgy have derived contri- s from the same source. Agriculture also is largely indebted emistry, and the novice in husbandry who acts on the princi- f this science, is not unfrequently able to excel the plodding r with his lifetime of simple experience.

descend to minor operations; the match with which we obtain stantaneous light by dipping it in acid, or by rubbing it on paper, owes its existence to chemistry. Similar in their ori- e the powder of the sportsman and the particle of detonating ound, by means of which he inflames the confined charge. The cters in which the pen of the philosopher, the historian, or the popular novelist, records his discoveries, his chronicles, or his oods, are traced with a chemical liquid. The ærial fluid which nates by its brilliant combustion, the streets and houses of of our large cities, is the result of chemical discovery. And me rich fountain has supplied to the careful housewife, the ous material with which she exterminates the rat from her the roach from her kitchen, and the most infamous of ver- om her bed-chamber.

although no science admits of a more complete defence, be- of its direct application and subserviency to the interests of am far from resting its claims to our regard entirely on this . I am aware that many, too many of our race, view every t of intellectual occupation, as deserving of attention only so it conduces to the gratification of our corporeal wants. But content to circumscribe the range of human inquiry by the pale of sordid interest? Is there in rational curiosity and knowledge no proper incentive to mental exertion? Was bestowed on us to be the slave of our animal appetites? And highest pleasures those of the brute? I hope every indivi- ho hears me has a ready answer to these inquiries. When ject is thus pressed home to our understanding, we cannot regard it in a right point of view. We are prepared at once owledge all that can be advanced in favor of a liberal cul- of the mind, untrammelled by selfish, mean and sensual rations. It is only when the principles on which a correct estimate must be founded, are not in view, that individuals are apt to treat with indifference or contempt the disinterested pursuits of the man of science. Let me caution those particularly who are young, never to judge hastily of the value of any intellectual employment. What undisciplined youth may ridicule and despise, experienced age will be apt to regard with deference and envy.

(*To be continued.*)

LIFE OF LINNÆUS.

(*Concluded from page* 132)

Though the herbal of Linnæus has ceased to be one of the greatest in the world, it is not the less valuable, either because of the sentiment of admiration which is attached to its founder, or because it is the base and type of all the nomenclature. After the death of Linnæus this herbal passed into the hands of his son; but the latter surviving him only two years, his mother, who, it is said, was fond of money, endeavored to reap something from it. Fearing that the government would not wish to retain it, or would give only a low price for it, she offered it to Sir Joseph Banks. Mr. Fee says that the latter not being in a situation to make the purchase, spoke of it to Mr. Smith. The anecdote, as I have received it from the mouth of Smith, is honorable to both and deserves to be recorded. Mr. J. Ed. Smith, then very young, and a passionate admirer of Linnæus, at a public dinner, stated in a very animated manner the price which was asked for the herbal of Linnæus, and his regret that his fortune did not permit him to dispose of a thousand pounds sterling which was asked for the herbal, the library and the manuscripts of the great naturalist. Banks hearing of this enthusiasm, sent for Smith, encouraged him to proceed and offered to lend him the money requisite to this acquisition. Thanks to this generous instigation, the bargain was made, and by the care of the English Consul, the herbal was sent to England. It has been said that the Swedish government, indignant at its being carried off, sent a frigate in pursuit of the vessel which was bearing off the herbal of their countryman, and this fact has been cited as an illustrious homage rendered to his memory. I have before me a portrait of Smith, which has a vignette, in which is seen the Swedish frigate pursuing the vessel carrying the precious herbal. I am sorry to excite doubt upon a story so interesting and honorable to science, but I am in conscience obliged to add, that Mr. J. E. Smith told me that there was not the least truth in it.

I may add that this learned man has used these collections in a manner the most worthy of their origin. He has published several works in which, by having the original samples, he has removed difficulties to which the laconicisms of Linnæus had given rise; he has often had the complacency to resolve the doubts which naturalists have had respecting the sense of the writings of Linnæus; finally, he has permitted those who had difficulties on particular points, to consult the herbal, and has granted this permission with all the grace and goodness which enhance the price of it. I cannot recall without emotion the hours I have passed with him, occupied in running over this precious dep$\hat{o}$t, and I cannot speak of it without rendering homage to his memory.

At the death of Smith, the Linnæan Society of London of which he has the President, and which was founded about the time that this herbal was brought to England, acquired the collections of Linnæus enlarged with all those of Smith; these herbals deposited in a place consecrated to the sciences, are thus preserved for the future exploration of botanists.

After thus furnishing, both from the work of Mr. Fee, and from our own recollections, the facts which appear to us the most valuable in the life of Linnæus, this would appear to be the place to endeavor to appreciate the services which he has rendered to science; but this undertaking would be immense, and would deserve to be treated of in a special work. We shall limit ourselves to the remark that the eminent and incontestible service which he has rendered to natural history, has been to create a language for it, in relation both to terms and to names.

Before his time, the terms had no precise meaning, and every body in describing animals and especially vegetables, employed

either vague terms or periphrases, which rendered their writings long, obscure, and difficult of comparison with each other. Linnæus gave precision to the terms, and created, especially in botany, many which were clear and elegant; he employed this new language with remarkable address and ability, and thus changed the face of all works of description. Doubtless, in proportion as natural beings have become better known in their details, it has become necessary to modify the sense of some terms and to add others; but it has been done according to the principles laid down by Linnæus, in so much that it is not without justice that even at the present day we are disposed to attribute to him all the happy additions which have been made to that Linnæan language, which has rendered natural history so clear, concise, and popular.

The nomenclature of animals and plants was in a still greater state of disorder, anarchy and embarrassment, than the style of description. Each name was composed of a long phrase, so that the simple catalogue of a garden formed a volume in quarto, and no one knowing these names by heart, they were repeated without precision. Linnæus fancied he might apply to the nomenclature of natural beings the same system which is universally admitted for that of the individuals of the human species; that every animal, every plant, might have a generic name, which would correspond with our family name, and a specific name, which would represent our baptismal name; thus the names became short, clear, precise; they could easily be remembered, and their stability might lead us to hope, that they would one day be universally employed.

These two grand bases, the language and nomenclature, being determined, Linnæus had the courage to apply them himself to all natural history; he traced the picture of the three kingdoms according to these principles, and astonished the world, both with the variety and precision of his knowledge, and by the care which he took to introduce into this vast picture a crowd of new objects,—of pointed observations; he cited under each article those ancient names which were the best established, the figures the least imperfect, the localities the most certain which he could obtain. He authenticated his works by a multitude of ingenious and original memoirs, in which he developed the points which were the least conformable to the conciseness of his habitual method, &c. Was it surprising that such immense labors should astonish the learned world, or such an entire change of forms and terms should embarrass those who had spent their lives in learning others, and that naturalists should thus become divided, on the one hand into admiring enthusiasts, and on the other into detractors, unjust to the merits of Linnæus?

If from the form we proceed to the classification, we shall find, in analyzing it, a curious example of this double position; that some have greatly admired what Linnæus himself regarded as precarious and conditional, and others have censured those parts of the works of Linnæus in which he is the most worthy of eulogy. I will explain myself; Linnæus appeared to me to be the first who clearly comprehended the difference between the natural and artificial methods; and nothwithstanding the vivacity of his disposition, and his desire to regulate the whole of natural science, he did, I say, very clearly understand that the number of objects known in his time, and the manner in which they were described, were insufficient to lead to a true and regular natural method; he therefore resorted, in practice, to a system purely artificial, and to fragments of natural order for study and meditation. He has, very formally, and with frequent repetitions, said that the artificial system was provisional, good for finding names, and nothing more, but that the natural method was the true end of science and the most worthy of giving a direction to the labors of naturalists; hence he gave private lessons to his favorite pupils, and allowed no occasion to pass of inducing them to appreciate their importance. But the learned world has committed, in this matter, two curious and contradictory errors; some, like Buffon, constantly reproach him, for having in his sexual system brought together objects of different natures, as if this bringing together was not inherent in every artificial method, which can only be compared to a simple dictionary,—and as if Linnæus had not corrected these chance arrangements in his fragments of natural order; others, and those too who are exclusively called Linnæus, have considered the artificial system as the whole of science; they have adopted as a permanent order what their master had furnished only as provisional; they have abandoned with disdain the researches of that natural order which Linnæus had declared to be the true end of science; thus contracting this man to their narrow conceptions. Thus they act in contradi to the principles which he professed, and in attaching themsel the exterior form of his writings, they have lost sight of the of them. Linnæus is much greater than the pretended Lin would make us believe, and I have no doubt, if he could a among us again, he would be their greatest adversary. But will make its way every where; artificial methods are reduc their true value and proper rank, the art of finding names, and one feels, at present, that a natural method, well understood, genuine expression of true science. D.

THE ADVOCATE OF SCIENCE.

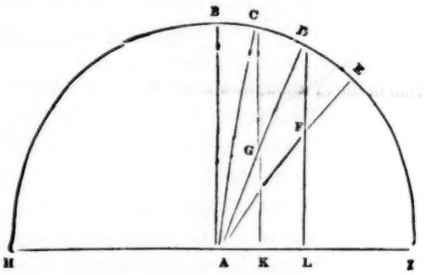
Eleventh Month 21, 1833.

TO CORRESPONDENTS.

Several favors received from correspondents are unavoidably postponed will endeavor to find room for them in our next.

To-day we publish a communication from our correspondent "H. G." ing the grand exhibition of meteors which occurred on the morning of th inst. We are among the number of those who were so unfortunate as no them; for, though not addicted to the practice of lying in bed at unre able hours, yet like the Irishman, when we go to sleep, we generally conti pay attention to it.

We entertain some apprehensions as to the possibility of ascertaining the rect height. The extreme points of distance at which the meteoric pole ma been seen, will furnish no clue to the solution of the problem, without oth which we will presently state. In reference to this, Professor A. D. Bach sented to the Academy of Science a model which he framed, a diagram of together with his explanation, will be observed below.



The arc H B I represents the sphere of the heavens; B the zenith, and perpendicular line drawn from the zenith to an observer at A. Now if we s the meteors to have fallen perpendicularly, C K and D L will represent th of two, and the trail of light they left in their track we will suppose to be C D F. These lines being projected upon the sphere, would give the lines C D E which would be the apparent direction of the meteors, if falling perp larly. Applying the same reasoning to a great number of meteors fallin every part of the heavens, and supposing perpendicular planes to diverge in rections from B A, which line would be their common section, and on planes the meteors would describe lines similar to C G and D F, which bei jected on the arc, would present an appearance similar to C D and D E, it is all these meteors would appear to diverge from a centre B, and describe curv dent to all projected bodies. But if we suppose these planes to be placed in a p inclined from a perpendicular, then the meteoric pole would not appear in nith, but at some other point. And this point would occupy the same relati sition to observers in different parts of the country. Accordingly we find t *was* S. E. of the zenith at New York, Philadelphia and Wheeling, Va: how farther remains yet to be ascertained. One meteor was observed at W which left behind it a tail visible for ten or fifteen minutes. Respecting the e the phenomenon, there can be little doubt it was general all over the United It has been seen north and south to a distance of six hundred miles—east a about the same distance. Captain Dixey, of the ship Susquehanna, observe miles off the coast; it commenced there about nine o'clock. It was seen cinnati, and at Aurora, Indiana, thirty miles west of Cincinnati.

We conceive Professor Bache's reasoning upon this point to be plausible sustained by facts; and this is the only basis upon which any substantia can be erected. To collect all relating to the case, will require some

will present them to our readers as soon as possible. This done, we can form more definite ideas upon the subject.

The communication of "A Practical Machinist" renders it probable that we were mistaken in stating in a recent number that the boilers of the steamer New England exploded with a pressure of thirty pounds to the inch. The idea was gathered from the article on which our remarks were founded; we intended to express the sentiments of that article. That there are high pressure engines all over the United States of the description he mentions, we doubt; having travelled in nearly all the steam boats from New York to Baltimore without observing any in those parts of the country. His remark on steam "entering the boiler" is not very courteous, and might be construed into a sneer. We presume he was well aware that the use of that expression on our part was an inadvertence, as every child knows that steam is generated in the boiler. Indeed we are almost incredulous of having written such an expression, being inclined to attribute it to the printers. However, the idea is that it is dangerous to give sudden egress to the steam or to shut it in suddenly.

INDICATIONS OF WINTER.

Ever since the editor of this paper began his career, he has heard nearly every body continually complaining of two grievances, to wit: hard times and unsatisfactory weather. The universal din on both these subjects depends more on habit than on any thing else. The *times* are seldom *hard* to the industrious, and those who mind their business need seldom complain, except perhaps the poor printers, who not only attend to their own affairs, but also to the affairs of their neighbors and the world at large, without being duly compensated. As to the weather, it is mostly good enough in its place, and we are too apt to wish it propitious to ourselves without any regard to the wants of others. It is not long since we saw a sensible lady almost in tears at the prospect of a rain which interfered with her contemplated visit to the country; while at the same moment every farmer in the land was eagerly and joyfully watching the clouds and praying for a rain to save his crops from destruction by drought. Still more recently we heard two farmers discussing the subject of a promised storm, on the same day. One of them thought a little rain was needed, and would be of great service. The other deprecated such an occurrence, and wondered what the farmers would do with so much wet weather. The former had just finished the sowing of his grain, and the latter had put it off till a more favorable time. So it is—we estimate the weather, not in reference to the world, but according to its bearing on our individual interests.

But all this has little to do with the "indications of winter," with which we began this article. Our readers all know that we have had some cold weather of late. The cold has been very extensively felt. At Cincinnati there was considerable snow about the middle of last month. At New Orleans there was a frost near the same time. A slight snow storm was pretty general in our own section of country on the 30th; and on the 4th instant, there was an appearance of another, which passed off, however, with only a few drops of snow. On the 5th of this month the mercury stood at 23°, or 9° below freezing—a temperature which would make us move briskly along the streets, and hug the fire in mid winter. Whether all this portends an early winter, or a late one, or none at all, we cannot positively determine. A spell of cold early in the season is very often followed by moderate weather, and it is rather too early at present for winter. Besides, November owes us "Indian summer" yet. There appears, however, to be a settled tendency to the production of cold, and we should not be surprised by an early winter. So much uncertainty rests on the future, that we advise our readers not to believe our conjectures nor those of any other person, but to be prepared for any thing, and to wait patiently for whatever is in the wind. This will have considerable influence in rendering the weather more agreeable.

THE CHOLERA.

This efficient agent of death has appeared again in Paris, and continues to rage in Seville, and other parts of Spain. It continues on its line of march over our continent, at present extending itself in South America. The more its history and its habits are developed, the more cause have we of the Atlantic states to be grateful for its brief visitation to us, and its permanent disappearance from our borders.

For the Advocate of Science.

METEORIC PHENOMENA.

Having been a witness of the splendid exhibition of natural fire works on the morning of the 13th inst. I am induced by the many contradictory and inaccurate descriptions that have been published, to furnish the result of my own observations of it, made at Wilmington, Del., for insertion in the Advocate of Science.

A little after 5 o'clock, my attention was first directed to this phenomenon. It appears to have been observable at least three hours sooner; but from credible testimony, it may be inferred that from the period when my observations began, till the light of day eclipsed the scene, the appearance was the same in every important feature as it was before I beheld it.

The idea which is best adapted to present an image of this phenomenon to such as had not the superlative pleasure of seeing it, is that of the stars of the firmament starting in rapid succession from their places, and falling towards the earth in a state of combustion, vanishing or blazing out, as it were, in one or two seconds, and leaving in their path a luminous line, which was visible from one or two to eight or ten seconds afterwards. They were of different magnitudes, some so faint as to be scarcely visible, others so large and brilliant as to cast a distinct shadow. The light which shone from the brightest of them was such as to attract the notice of persons in bed, by faintly illuminating the chamber through closed Venitian shutters.

On its first appearance, each meteor was small, but it enlarged rapidly as it descended, and continued to grow larger and brighter till the moment when it vanished in a blaze of light. I use the term *blaze* in a literal signification; for, instead of exploding or scintillating, the meteor terminated in a sudden blaze, or vivid flash, which generally preserved an orbicular form, resembling a ball of fire. This blaze was often of a purplish hue, while the streak that was left in the track of the luminous body was always of a pure, I might say a *mild* whiteness.

The most brilliant of these meteors were about mid-way between the zenith and the horizon. Those nearest the zenith were faint. I saw only one that appeared to reach the horizon, and this was a beautiful one which descended in the north west. Doubtless a number of others reached the horizon unobserved by me; but their proportion must have been very small.

The number of these meteors was immensely great. At a moderate estimate from twenty to fifty were often visible at the same moment in a space of the sky embraced within the range of vision—perhaps one fourth or one third of the whole firmament. I have no doubt that from one to two, or even three hundred were frequently apparent at the same time in the entire circle of the firmament. There was so little remission of the phenomenon that I suppose there could not have been fewer than one hundred visible at any one period while my observation continued. Excepting near the horizon, and also at the "meteoric pole," which will I presently notice, I do not believe there was a spot in the heavens as large as the moon on the meridian, which was not occupied or traversed by them at some period or another.

With regard to their distance from my eye, they all appeared to me far off. I could discover none of them to pass between me and any terrestrial objects. Some persons supposed them to be very near; but I will presently show that their distance, in all human probability, was great.

I perceived no noises or explosions; nor, I believe, did any one else, at Wilmington.

Between these and the meteors or shooting stars which are frequently seen at night, there was no appreciable difference. I have since closely observed numerous meteors, and am fixed in this opinion. With respect to their apparent velocity, I am disposed to believe that our common nocturnal meteors *generally* move with greater rapidity than did those which are the subjects of this description. In their direction, there is also a difference, our common shooting stars moving horizontally and in every direction, while the others preserved a regular order in this respect.

To a careless observer they seemed to move in their descent in direct lines from the zenith to the horizon. On looking directly upward, I perceived one to cross the zenith from south to north, and several others a little southward of the zenith, instead of descending toward the southern horizon, shot upward; that is to say, moved in a northerly direction. I imme-

diately saw that there was a point nearly south east of our zenith, and about ten degrees from it, as I then supposed, from which the luminous bodies diverged in every direction. This distance I have since ascertained to be twenty degrees. Let the reader fix upon a point in the heavens south east of the zenith, and about one fifth part of the distance from the zenith to the horizon; and let him imagine lines to be drawn from this point to the horizon in all parts of the compass. These lines will then represent the course which these meteors uniformly pursued. I did not remark that any of them deviated from this course, or crossed the point of divergence. If they did deviate, it must have been very slightly. Not a single one did I see moving horizontally, or even obliquely.

The best account of this magnificent spectacle that has met my notice, appeared originally in the New York Commercial Advertiser. Although that account refers to the occurrence as observed at New York, yet it is adapted in every important particular to the phenomenon at Wilmington. Among the many narratives of the same event, this is the only one that I have seen which has any pretensions to the character of an accurate and scientific observation. I am happy to find that the writer of that account observed the circumstances connected with the *meteoric pole*, as the point which I have just described is aptly termed. His inference, however, respecting the height of the meteors is certainly erroneous. For it is utterly impossible that the meteoric pole should appear in the same direction from two places more than one hundred miles distant, unless that pole be hundreds, and even thousands of miles from the earth.

My observation of this peculiar circumstance was precise; for I readily perceived that similar observations made elsewhere would determine the height of the meteors. I lay on my back in an open field and noted the place of the meteoric pole with respect to the fixed stars. The spot was in the constellation Leo, near its head, six or eight degrees north east of the bright star Regulus. It was impossible to ascertain any exact *point* constituting the pole, but it was easy to perceive a certain space in the heavens including such a point. By examining the celestial globe, or the sky itself, it will be seen that Regulus is the most southern star of four, which form a crooked line pointing to the north or north east. The space alluded to was included between the two northernmost stars of this row. The time of the observation was half past five o'clock.

The night was remarkably clear, not a particle of cloud being visible. A very light breeze blew from the west. The thermometer stood at 37°, and the barometer at 29.81 inches. A high north west wind had prevailed on the day before, which fell suddenly towards night. Nothing worthy of note has since occurred in the weather. For three weeks before, and also since that time, it has been unseasonably cold. The winds have prevailed from north and west, and the sky has been a good deal overcast, with very little rain. This exhibition differed from all others on record in the regularity with which the meteors moved with reference to the described meteoric pole. In this respect the phenomena of 1799 and 1803 are essentially different from it.

Whether any individual now living will ever witness a similar display of natural pyrotechny, is doubtful. I have since anxiously watched the heavens for a considerable portion of every night, and have been encouraged to protract my vigils by the appearance of an unusual number of meteors. In the course of two or three minutes I have repeatedly observed as many as three or four, and once I counted upwards of a dozen which appeared in the east in about twenty minutes.

The causes of the unusual phenomenon that I have described, although they have elicited much inquiry, remain to be explained. That these meteors were dependent on the same causes as the common "shooting stars," does not admit of a doubt. In Nos. 17–18 of the Advocate, is an article on the subject, with which I mainly agree. The theories that have been hitherto advanced to account for them are, the inflammation of gas, the former explosion of a planet, terrene volcanoes, lunar volcanoes, terrestrial comets and electricity.

That they depend on the combustion of gas, is a notion that has become obsolete. No philosopher of the present day, so far as I am aware, pretends to uphold it.

Some have ascribed them to the explosion of the ancient planet of which the four asteroids were composed. A vast quantity of small fragments, say they, were driven into space by this catastrophe, and these fragments continue to revolve in the solar system, and when they chance to enter the earth's atmosphere, take fire, owing to friction, and give rise to meteors. To this it may be replied, that if every visible meteor were a solid body, the fall of meteoric stones would be an every day occurrence; whereas it rarely happens.

The same argument is sufficient to refute the doctrine that they proceed from volcanoes in the moon, or in the earth, or that they are terrestrial comets. In short, this argument disproves any theory which regards them as so many solid bodies.

It seems to me that the most plausible method of explaining them, is to refer them to electrical agency. By some persons they are supposed to be of two kinds, electrical, and solid. Those which appear so frequently in the upper regions of the atmosphere are alleged to consist of electricity, while the others are said to be cometary bodies, revolving round the earth. I have already occupied too much room to enable me at present to enlarge on these thories. But I shall renew the subject in a future number. H. G.

For the Advocate of Science.

It appears that I misunderstood the query of "Quæsitor" published in a late number of the Advocate. He now gives it another form, viz:—"Whether in a chain of three or more links, the one in middle is more liable to break than those on the ends." I can perceive no difference between the several links of a chain with respect to the weight which each one has to support, except that the weight of the chain is added to the upper link, or divided between the two extreme links in case the chain is pulled horizontally. Therefore a chain supporting a weight in a perpendicular position will break at the upper link; and a chain which is drawn in a horizontal direction will break at one of the ends.

The question by "B." in regard to the hoop or arch, is an interesting one, and involves the principles of mathematics. If it should not prove too tough for me, I will, with your permission, attempt a solution in your next paper. RUSTICUS.

For the Advocate of Science.

Being curious to know a little more about the weather, I take the liberty of asking a few more questions through the medium of the Advocate.

1. Why does the wind incline to follow the course of the sun; that is, why does it change from north to south by east, more frequently than by west?

2. The days are now as short and the sun as powerless as on the first of February. Why is it so much warmer now than at the same period after the winter solstice?

3. Why is a north west wind so dry and cloudless, while a south west wind, which blows over land like the former, is damp and apt to produce rain?

4. Why is a south west wind more apt to bring clouds and rain in winter than in summer; or is it so?

5. What is the cause of the mild weather in November commonly called Indian summer? BARBARA.

For the Advocate of Science.

An error appeared in the Advocate of Science of the 24th ult., in the article "*Steamer New England*," which, if suffered to remain uncorrected, may tend to lessen the confidence of the public in that invaluable agent, steam.

It would appear from the article alluded to, that the boilers of the New England exploded at a pressure of thirty pounds to the square inch. Now it is well known that there are high pressure engines all over the United States, with iron boilers of a quarter of an inch thickness, working at from sixty to one hundred and fifty pounds to the square inch. Some allowance is however due to the fact that the strength of iron is to copper as nine is to six: also, the boilers of the New England were larger than the high pressure boilers generally are, which would make the strength proportion-

ately less. Still the pressure to which the steam rose in consequence of a partition falling across the line of the saftey valve, must have been far above thirty pounds. The writer, by referring to the article he alludes to, will find that the steam guage was prevented from indicating a greater pressure than thirty pounds, by coming in contact with the deck.

As to Professor Hare's plan of placing the boilers outside the boat, there are so many practical difficulties to be encountered, that even if the object aimed at should be accomplished, it will never be adopted. The example of the powder mills is not at all a parallel case, as the exploded boiler will take whatever direction chance may dictate, carrying with it hot water and steam, and tearing down any bulwark that may be opposed to its progress. Did not the New England's boiler take the most difficult course, cutting off timber a foot square as smooth as though cut with a saw.

The writer speaks of the steam *entering* the boiler: it is a common opinion among us mere practical men that the steam is *generated in* the boiler.

PRACTICAL MACHINIST.

JOURNAL OF THE WEATHER

For 10th Month, October, 1833, kept at Wilmington, Del.

d	THERM. ○	THERM. ☾	THERM. ●	THERM. ☽	BAROMETER.	WINDS.				RAIN	OBSERVATIONS.
1	61	63	70	92.87	29.85	29.75	E	E	S.S.E	1	Rainy. L.
2	68	73	58	.68	.65	.70	N.W	W.N.W	N.W	0	Clear. L. in S.E.
3	52	66	56	.75	.78	.85	W	S	W	1	Partly clear.
4	48	66	52	30.02	30.04	30.10	N.N.E	N.W	N.N.W	0	
5	43	64	50	.30	.29	.26	N.E	S	S.E	1	Clear.
6	50	67	60	.27	.20	.10	N.E	S.W	S.E	1	Cloudy.
7	56	68	62	.01	.00	29.95	N.E	S.W	S.E	1	Cloudy.
8	65	62	55	29.88	29.85	.83	W	N.W	N.W	2	Rain—clear. L.
9	54	69	59	.82	.78	.74	N.W	N.W	N.W	2	Clear.
10	52	69	49	.71	.68	.75	W	N.W	N.N.W	3	Clear—cloudy.
11	40	55	48	.98	.99	.96	N.W	W	W	1	Partly clear.
12	50	62	60	.87	.67	.40	N.E	S.E	N.W	0	
13	48	60	51	.29	.65	.68	N.W	N.W	N.W	1	1.70 Rain.
14	45	62	49	.75	.80	.82	N.E	N.W	S.E	1	.40 Stormy—clear—aurora.
15	48	62	60	.87	.87	.89	N	N.W	E	0	Clear.
16	60	70	67	.80	.70	.70	S.S.W.	S.S.W	S.S.W	1	Cloudy.
17	66	72	64	.68	.64	.50	N.W	S.S.W	N.N.W	3	.45 Cloudy—showers.
18	51	54	44	.60	.80	30.05	N.W	N.W	N.E	1	.20 Cloudy—showers.
19	36	52	46	30.10	30.13	.17	N.E	S.S.E	N.E	0	Partly clear.
20	43	46	46	.07	.04	29.97	N.E	N.W	N.E	2	Partly clear—ice.
21	44	47	47	29.85	29.80	.75	N.E	N.E	W	0	.20 Rainy.
22	43	49	39	.69	.68	.75	N.W	W.N.W	S.W	1	3.35 Rainy.
23	33	52	42	.84	.81	.82	W.N.W	W	S	1	.70 Rain—clear.
24	40	54	53	.72	.58	.54	S	S	W.N.W	1	Clear—smoky.
25	50	60	54	.51	.48	.45	W	S.W	N.W	1	Clear—hazy.
26	43	55	54	.54	.63	.72	N.W	W.N.W	W.N.W	1	Cloudy—clear—hazy.
27	40	55	50	.68	.56	.55	S.W	N.W	N.W	1	Clear—hazy.
28	45	51	38	.59	.62	.67	N.W	N.W	N.W	1	Partly clear.
29	33	44	34	.73	.75	.80	N.W	N.W	N.W	1	Snow shower—clear.
30	32	39	30	.93	30.00	30.15	N.W	N.W	N.W	1	Clear.
31	27	41	29	30.02	.93	.95	N	N	N	1	

The foregoing observations on the thermometer, barometer and winds, are taken three times a day; at sunrise, mid day and 11 P. M.

Note.—In the column representing the force of the wind, 0 denotes calm, or nearly so, 1 a light breeze, 2 a breeze, 3 a wind, 4 a high wind, and 5 a very high wind. The letters R, T and L denote rain, thunder and lightning respectively.

SUMMARY.

Average at sunrise, thermometer		47.61°	—barometer	29.82	inches
Do. at mid-day,	do.	58.355°	do.	29.824	do
Do. at 11 P. M.	do.	50.84°	do.	29.826	do.
Monthly mean, (2 obs.)	do.	52.98°	do.	29.823	do.
Maximum, (2d)	do.	73°	do. 5th	30.30	do.
Minimum, (31st)	do.	27°	do. 13th	29.29	do.
Range,	do.	46°	do.	1.01	do.
Warmest day, 2d,	do.	70.5°			
Coldest day, 31st,	do.	34°			

Northerly Winds prevailed, (proportion,)	15 days	Proportion of cloudy weather,	14 days
Easterly, do.	8 do.	Whole days clear,	8
Southerly, do.	8 do.	Days on which rain fell,	10
Proportion of clear weather,	17 do.	Quantity of rain,	10.15 in.

Observations.—An aurora borealis on the 13th of this month, followed in two days by an effort at an easterly storm, and in a week by a protracted easterly storm. Clouds electrified on three days, in the early part of the month. Winds moderate and not very changeable, but inclined to settle in the north and east. Two complete easterly storms with rain, and three abortive ones in which the wind changed to south. Rains not very frequent but copious. The quantity that fell was greater than has fallen in any month since July and August 1831. The temperature in the fore part of the month was moderate, but unseasonably cold at the conclusion. The first general frost for the season was on the 19th, when there was ice in many situations. On the last day of the month it was 5° below freezing—a rare degree of cold for this month. On the 30th was a shower of snow, which lasted an hour, and whitened the ground. A few miles farther inland from Wilmington, sufficient fell to remain on the earth the whole day. This snow visited a large extent of country, and in some mountainous parts of Pennsylvania was a considerable snow storm. The range of the barometer this month was greater than since January last.

Remarkable case of Somnambulism.

A female about nineteen years of age, living in a family in this town, is frequently known to rise from her bed during the night, while asleep, dress herself, and go about her daily employments. In several instances she has got up and set the table for breakfast, with as much regularity as she does when awake, selecting the right articles, and placing them upon the table exactly as they should be. In one instance she went into the buttery which was perfectly dark, skimmed the cream from the milk, and poured it into one bowl, and the milk into another, without spilling any at all. She frequently goes to the drawers where her clothes are kept, changes the position of the articles or takes them out, and in some cases has placed some of them where she could not find them when awake. In one instance she took out her needlebook, and it has not been found since; but at a subsequent paroxysm, she was found sewing, in the dark a ring upon a curtain, with a needle and thread, which it was supposed from several circumstances she could have obtained from no other source but the lost needle-book. This fact together with other facts in the case, seem to show some connexion between the several paroxysms in regard to the trains of thought; and also an analogy between this and some cases of insanity, where lucid intervals intervene.—In all these instances she moves about the house with as much ease and self possession as if every thing was going on as usual, avoiding persons and objects which are in her way, although her eyes are often shut. When in one of these paroxysms, she usually talks a great deal, and with much more fluency and vivacity than in her waking hours and occasionally upon religious subjects, so that the case may, in this respect, be somewhat analogous to the sleeping preacher at Saybrook. One striking feature of this case is, that she is governed in her language and actions by her dreaming thoughts or imaginations, and all her impressions from external objects are made to accord perfectly with these imaginations. For instance she frequently supposes herself in some other place, usually her native place, and calls the persons around her by the names of persons who live in that place, and speaks with much interest of scenes and objects which she has seen there. If inquired of about persons and things in Springfield, particularly the family in which she lives, she knows nothing about them. Nothing which can be said or done to her seems to have the slightest influence in changing the current of her thoughts. All attempts to awaken her generally prove unsuccessful. At one time cold water was thrown upon her, but it had no effect, except to produce the exclamation, "why do you want to drown me?" and immediately she went to her chamber, changed her clothes and came down again to her work. On one occasion an emetic was

given her (which she took, as she said, because the physician whom she called her father, wished it) but though it relieved her headache, it did not awaken her. If left to herself, she after a while goes to bed, and composes herself to sleep, but remembers in the morning nothing which has transpired.

When in the paroxysms, she usually suffers much pain in one side of the head; her face is flushed, and her breathinig so laborious and so loud as to be heard in a distant room. She sometimes complains of the pain in her head; and in one instance wished to have it opened to ascertain the cause. Her appearance usually indicates perfect health; but her general health is not good; and she is not the most subject to these paroxysms when she is more unwell than usual. She has been subject to them more or less for several years.—*Springfield Gaz.*

MISCELLANIES.

1. *Influence of the moon on the migration of eels.*—Every year the young eels, which are bred in the *lagunes* of Commachio, near Venice, move out of the water in shoals, cross the meadows, and guided by a mysterious instinct, throw themselves into the sea. But this emigration only takes place during dark and stormy nights; and the feeblest light of the moon arrests their march. Let that planet appear in the sky, and the slippery caravans pause in the grass, as if terror struck. But the moment a fleeting cloud veils the moon's disk, they resume their march to the sea.—*Flint's Lectures.*

2. *Literary enterprize of the French, and French libraries.*—The literary enterprize of the French nation is unrivalled by any other. The benefits of many of their institutions are available by all, and their libraries are among the largest in the world. In Paris, the royal library has above 700,000 printed volumes, and 70,000 MSS. The library of Monsieur (king's library) has 150,000 printed volumes, and 5,000 MSS. The library of St. Genevieve, 100,000 printed volumes and 2,000 MSS. The Magazine library, 92,000 printed volumes and 3,000 MSS. The library of the city of Paris, 20,000 volumes. *All these are daily open to the public.* In the departments there are twenty-five public libraries, with above 1,700,000 volumes, of which Aix has 72,670; Marseilles 31,500; Toulouse 30,000; Bordeaux 105,000; Tours 30,000; Lyons 106,000; Versailles 40,000, and Amiens 40,000.

3. *Spontaneous combustion of charcoal.*—If 20 or 30 cwt. of charcoal, in a state of minute division, be put together in a heap, and left undisturbed, spontaneous combustion generally ensues. In one case charcoal was loaded in Manchester, says a writer of a paper in the "Repertory of Patent Inventions," and conveyed by cart to a distance of 20 miles. No combustion appeared during the loading, nor could the carter, although he carefully examined it, perceive any indication of it, when at 11 o'clock he left it for the night. At five on the following morning, however, he was called up to save his cart, which he found on fire and nearly consumed.

4. *Death of the Empress of China, and habits of the Chinese in mourning.*—On the 15th July, died at Pekin, the consort of the Emperor of China. A general mourning has been ordered in consequence. The Mantshur attendants are for 27 days to wear garments of coarse white linen, and caps without tassels or buttons; during 100 days they must not shave their heads. The Mongolian attendants are to assume the same mourning with the exception of the white garments. The Chinese people must leave their heads unshaved for the same period, and are to wear no tassels on their caps for seven days. The right of nominating the empress belongs to the emperor's mother, who solicits within three years, one of the five spouses of her son for that office.

5. *Manganese.*—It is perhaps not generally known that there has been discovered in the state of Vermont a mine or bed of manganese of a quality superior to the imported article. The manganese mine is in the town of Chittenden, Rutland county, 29 miles from the shore of Lake Champlain, and has been worked since 1826. The manganese is raised from the mine, cleansed from the earthly particles, ground in mills erected for the purpose, and is sent to the New York and other markets in barrels. It is understood that the New York Chemical Company are to be supplied with two hundred tons of this article the present season. The principal use of manganese is for making the chloride of lime or bleaching powders, and for glass. The price of the manganese is between thirty and forty dollars per ton in market. We mention this as a single fact, tending to illustrate the influence of our canals in developing and bringing forth the resources of the country.—*Albany Argus.*

6. *An interesting discovery.*—A discovery which will be highly interesting to antiquarians, has recently been made in the environs of Treves. It consists in the remains of a Roman temple, found in digging the earth on the highest bank of the Kyll, between Pelm and Gerolstein, in the circle of Daun. Several coins of Marcus Aurelius, Antonius Pius, and Constantine the Great, human masks in terra cotta, fragments of stone images of animals, and a stone with a Latin inscription; importing that the temple was dedicated to the goddess Luciana by Marcus Victorins Polenus, in the consulate of Glabrio and Torquatus have already been dug up, and further excavations are in progress.

7. *Case of remarkable abstinence.*—There is now living at a short distance from Vuissens, in the district of Surpierre, a girl between 10 and 11 years old, who has taken no kind of nourishment for the last three months, though her complexion remains fresh, and her eyes and countenance generally lively and cheerful.—She can walk and run with her accustomed agility, and will sometimes mount a horse and ride at full gallop. She however is not so stout as she was, and at times suffers from pain in the intestines, which are generally rather swoln, and occasionally becomes more indurated; she utters cries or rather moans, but whether from pain or vexation is not known. She appears to feel her situation, but cannot be influenced by any means to overcome her repugnance to food, which is so great, that she cannot even bear the smell or sight of it.

Her mother relates, that having one sunday night left the child alone in the house, while the family went to evening prayers; an old woman came and demanded something to eat. The child refused, saying that her parents were at church, but on their return would no doubt give her something. She however, at length prevailed on the girl to admit her, and to go up stairs with her into a chamber, where she threw the child on a bed and beat her severely on the stomach, and then left her. It was from this period that the poor girl ceased to eat. We do not give credit to all the absurd tales which credulity has created out of these circumstances, but the fact itself is unquestionable, though science has hitherto been unable to account for the phenomenon.—*Jour. of Fribourg.*

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